REMARKS

I. Introduction

Claims 1-2, 4-5, 7-9, 15-17 and 19-22, 24-25, 27-28, and 30-33 are pending in the subject application. Claims 3, 6, 10-14, 18, 23, 26, and 29 have been cancelled without prejudice. Claims 1, 7-9, 15, 19-21 have been amended. New claim 34 has been added to more fully claim the invention.

Support for the amendments and the new claim is found in the specification as originally filed. Support for new claim 34 is specifically found in FIG. 1B and on page 9, line 30, to page 10, line 2, of the specification. Support for the amendments to claims 1 and 15 is specifically found in FIG 1A and on page 10, lines 10-23, of the specification. Further support for the amendment to claim 1 may also be found in FIG. 1B and on page 9, line 30, to page 10, line 2, of the specification.

II. 35 CFR § 1.75 Objection

Claims 6-8, 23, and 26, have been objected to under 37 CFR § 1.75 (c) as not being in proper dependent form for failing to further limit the subject matter of a previous claim. Objected to claims 6, 23, and 26, have been cancelled. The dependencies of claims 7 and 8 have been changed to depend on claim 1 so as to be in proper dependent form. Applicant respectfully asserts that the foregoing amendments overcome the foregoing objection.

III. Double Patenting Rejection

A terminal disclaimer has been filed to overcome the obviousness-type double patenting rejection.

Claim 1-2, 5, 15-17, 19-21, 23-25 and 28-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,397,926 (SATO et al.) in view of JP 04-264570 (Kuno et al.).

Claims 4 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,397,926 (SATO et al.) in view of JP 04-264570 (Kuno et al.) as applied to claims 1-2, 5, 15-17, 19-21, 23-25 and 28-23 and further view of Shultz.

Claim 22 has been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,397,926 (SATO et al.) in view of JP 04-264570 (Kuno et al.) as applied to claims 1-2, 5, 15-17, 19-21, 23-25 and 28-23 and further view of Arnold et al. or Higgins, III.

Applicants respectfully assert that the filing of the terminal disclaimer overcomes this rejection.

IV. 35 U.S.C. § 102 Rejections

Claim 29 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Jordan et al. (US 5,486,980) and by Kuno et al. (JP 04-292570). Claim 29 has been cancelled. Applicants respectfully assert that the canceling of claim 29 eliminates any grounds for these rejections.

V. 35 U.S.C. § 103 Rejections

Claims 1-2, 5, 22-23, 25, 28 and 30-32 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuno et al. (JP 04-292570) in view of Arnold et al. (US 4,823,869).

Claims 1-2, 5, 15-17, 19-25, 28 and 30-33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuno in view of Higgins, III .

Claims 4 and 27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuno et al. in view of Arnold et al. as applied to claims 1-2, 5, 22-23, 25, 28 and 30-32 or over over Kuno et al. in view of Higgins, III as applied to 1-2, 5, 15-17, 19-25, 28 and 30-33 and further in view of Schultz, as applied above in the double patenting rejection.

In response to the above rejections, Applicants have amended claims 1 and 15 to further clarify the differences between the references and the claimed invention. Applicants respectfully assert that the present invention is not suggested nor taught by any combinations of the foregoing references for the following reasons.

Kuno et al. discloses a heatsink wherein a heat conduction element 3 is directly disposed on a semiconductor device 2 with a perpendicular direction relative to the semiconductor device. However, Kuno et al. does not disclose a column that has a sectional width that decreases as it extends away from the heat receiving face. As can be clearly understood from the figure, the "column" of Kuno et al. has a rectangular cross sectional shape. Though the Examiner suggests Kuno et al. discloses "all the claimed limitations" except the curved face, Kuno et al. does not disclose or suggest a fundamental limitation of the claimed invention, namely a cross section decreasing in width as it extends away from the heat receiving face.

A. <u>Rejection over Kuno et al. in view of Arnold et al</u>

Arnold et al. (US 4,823,869) discloses a heatsink wherein a plurality of cooling fins 20 are disposed on a curved top surface 14. However, Arnold et al., fails to disclose or suggest a plurality of fins disposed parallel to the heat receiving face. On the contrary, the fins of Arnold et al., are disposed in a direction perpendicular to the bottom surface of the base 12, which correspond to the "heat receiving face" of the present invention.

Moreover, the pending rejection does not suggest proper motivation to combine the two references. In other words, though Arnold et al. teaches improving the airflow between the cooling fins, Kuno et al. is not directed toward improved airflow in the heatsink. Kuno's teachings would obstruct airflow, and therefore one of skill in the art would not find motivation to combine the two references. For instance, in the second example, Kuno et al. discloses two conducting plates, 13a and 13b, which are round plates that transfer the generated heat to the fins 14 from both ends of the fins. If the air is to be blown through the fins, as in Arnold, the round plates would greatly obstruct airflow. Thus, the proposed combination of Kuno and Arnold is improper.

B. <u>Rejection over Kuno et al. in view of Higgins, III</u>

With regard to the combination of Kuno et al. and Higgins, III, in addition to the above discussions about Kuno et al., Higgins discloses a fluid deflection member 24 that changes a direction of airflow from the blower 12. However, Higgins does not disclose a plurality of fins parallel to the heat receiving face. On the contrary, fins 36 are disposed perpendicular to the bottom face 18. Further, fins 36 are not disposed on the fluid deflection member 24, but on the bottom face 18. Accordingly, Higgins does not disclose or suggest the structure of the present invention.

Again, the pending rejection does not suggest proper motivation to combine Kuno et al. and Higgins. Higgins discloses that the fluid deflection member 24 changes the blow direction of airflow from the blower 12 to blow toward to fins 36. It seems the Examiner regards the fluid deflection member 24 as the column 2 of the present invention. However, the fluid deflection member 24 and the fins 36 are made as independent members, and the fins 36 are not disposed on a face of the fluid deflection member 24. Further, if the fins 36 are disposed parallel to the

bottom face 18, the airflow from the blower 12 is disturbed by the fin at the highest position and it is difficult for the airflow to reach to the lower fins. As a result, the fins 36 of Higgins can not be disposed parallel to the bottom face 18. In that sense, Higgins fails to disclose or suggest parallel orientation of the fins to the heat receiving face. Accordingly, the combination of Kuno et al. and Higgins does not teach or suggest the structure of the present invention.

For all the foregoing reasons, it is respectfully submitted that the pending claims are patentable over the cited prior art references. Applicants submit that the foregoing fully addresses all of the Examiner's rejections under 35 U.S.C. §103 and respectfully request their withdrawal.

VI. CONCLUSION

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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